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ABSTRACT

The Picture Learning Style Inventory was administered to 42 first graders and 46 second graders attending two public schools in a Southern university community. The inventory consists of 13 individual picture booklets, each illustrating a different element of learning style (environmental, emotional, sociological, and physical). The inventory is administered by discussing the pictures with a small group of children during several sittings. At the end of each discussion, each child circles a happy or unhappy face to signal agreement or disagreement with orally read statements. In the present study, analysis of children's responses was performed to determine similarities and differences. Results indicated that, while visual learning was preferred by 31 children, only 11 boys preferred auditory learning. Almost all of the children indicated a preference for no sound while learning. Afternoon was the preferred time for learning for 44 children. The majority of respondents preferred structure in the classroom and thought that they were responsible, persistent, and adult-motivated. Since studies have shown improvement in a child's self-concept and achievement when learning preferences and conditions are matched, it was suggested that individual analysis using the Picture Learning Style Inventory can provide a rational basis for accommodating learning style differences in the classroom. (Author/CB)

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Identifying Learning Preferences Early

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Abstract

A Picture Learning Style Inventory was administered to 42 first graders and 46 second graders attending two public schools in a southern university community. Analysis was performed to determine similarities and differences in responses. This inventory consists of thirteen individual picture booklet which illustrates a different element of learning style (environment, emotional, sociological, physical). Visual learning was preferred by 31 children. Only 11 boys preferred auditory learning. Almost all of the children indicated a preference for no sound while learning. The majority of respondents thought they were responsible, persistent, and adult motivated. Individual analysis is necessary for providing a rational basis for accommodating learning style differences in the classroom.

Identifying Learning Preferences Early

The difficulty in planning and implementing appropriate teaching for individual learners has plagued educators since the turn of the century. In a 1902 essay John Dewey criticized the extreme emphasis on curriculum development which disregarded the child's individual characteristics and experiences. In the mid 1930's a prominent educator, wrote to Dewey: "So far as my observation goes - all of them (schools) start with a predetermined curriculum, and most, if not all of them, seek to apply one uniform standard of achievement" (Glasser, 1977, p. 7).

In the 1980's the problem still exists but understanding individual preferences or learning styles is now central to many workshops, inservice meetings, and research studies. As David Hunt (1981) expresses "The current interest in learning styles focuses on a neglected aspect of individual difference. Knowing about leearning style differences also suggests to the practitioner the most appropriate instructional approach" (p. 647). He maintains tnat a procedure for describing students in terms of learning style is a means for interrelating practice and theory by making research immediately applicable to the classroom. The early identification of a student's learning strengths and preferences is building a program based on success instead of defeat - challenges instead of apathy - cooperativeness instead of disruptiveness.

This study investigated the learning preferences of 88 children in first and second grades.

Subjects

A Picture Learning Style Inventory (Perrin, 1980) was administered to 42 first graders and 46 second graders or a total of 88 children during Spring 1981. There were 40 males and 48 females identified in the study.

They were attending two public schools in a southern university community. All the parents, children, and teachers had completed a written permission form.

Method

The Picture Learning Style Inventory consists of the thirteen individual picture booklets which illustrates a different element of learning style. The inventory is verbally given in several sittings to a small group of children. The administrator would first discuss the picture with the children. Then each question relating to the element would be read orally by the administrator. Next each child would respond by circling a happy face which meant agreement with the statement or an unhappy face which meant disagreement. The Inventory focuses on the following elements which influence the way individuals learn (Dunn & Dunn, 1978).

Environmental stimuli (sound, light, temperature, design)

Emotional stimuli (motivation, persistence, responsibility, structure)

Sociological stimuli (alone, peers, adults, anyone)

Physical (perceptual, intake, time, mobility)

Thirty-seven of the first and second grade children preferred learning with an adult and 23 youngsters preferred learning in a variety of ways (with peers, self, or an adult). The chi square analysis was performed to determine these frequencies and any differences between the males and females. Visual learning was preferred by 31 children. However, 11 boys responded they preferred auditory learning and 24 girls preferred visual learning ($\chi^2 = 11.101$, $p < .03$). Afternoon was the time of day 44 children preferred to learn. No sound was the preference of 78 respondents. Forty-nine boys and girls in grades 1 and 2 would like the

intake of food or drink while learning. Generally, cooler temperatures were preferred as indicated by 43 respondents. The preference for dim or bright light was about evenly divided between the respondents. A total of 44 boys and girls indicated a preference for structure in the classroom. Even though 67 respondents thought they were responsible and 58 persistent, 83 of the children said they were adult motivated. Tables I & II - summarize the children's response for all the elements.

Discussion

These results are in contrast to other investigations (Barbe, 1981) which did not find any differences in the modality preferences of males and females. Barbe does note that the girls in his study generally had higher raw scores than the boys which "may signal an actual difference in modality functioning during the preadolescent years" (p. 397).

However, the finding in this study that there are differences in girls' and boys' preferences for learning is significant in that "children with an auditory orientation usually perform poorly on standardized achievement measures, possibly because tests of this kind are more suited to mixed modality or visual students" (Barbe, W., 1979, p. 378). In two separate investigations, when reading treatments were matched to perceptual learning preferences, higher reading scores resulted (Carbo, 1980 & Urbschat, 1977). Also when treatments were not matched with modalities, visual approaches were more successful with primary children than auditory approaches (Burton, 1980).

The preferences have implications for the classroom teacher in planning and organizing the classroom. For instance, teachers often assume all children learn best with bright light early in the morning and will not be challenged after lunch. However, many youngsters would be motivated to learn if material were presented later in the day. An investigation of

50 eighth grade math students were compared to determine when their best learning took place in school. Of those whose learning preferences matched the time when they were assigned to their math classes, there were fewer discipline problems and the students also achieved academically (Carrithers & Young, 1979).

Specific suggestions were made by Brooks (1980) concerning the placement of kindergarten children in a morning or afternoon kindergarten program. She recommended administrators use learning preferences as a means for scheduling.

When children with a preference for dim or bright light were matched to their environment, their scores on both reading speed and accuracy were consistently higher ($p < .01$) than when tested in mismatched environments (Krimsky, 1982). Another study was conducted which matched students learning style preferences for sound with the acoustic environment. Results indicated higher reading and attitude scores of those students placed in an environment compatible with their preferences (Pizzo, 1981).

In summary, studies have shown improvement in a child's self concept and achievement when learning preferences and conditions are matched. The Picture Learning Style Inventory is one possible procedure for determining learning preferences of young children. Then individual analysis can provide a rationale basis for accomodating learning style differences in the classroom.

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TOTAL RESPONSES OF BOYS/GIRLS IN GRADE 1 AND GRADE 2

Table 1

Sociological Preference

	Boys	Girls	Total N	Grade 1	Grade 2	N
Self	3	4	7	5	3	8
Pair	4	14	18	3	14	17
Peer	0	3	3	1	2	3
Varied	8	15	23	17	7	24
Adult	15	22	37	18	19	37
Total	30	58	88	44	45	89

Table 2

Perceptual Preference

	Boys	Girls	Total	Grade 1	Grade 2	Total N
Auditory	11	5	16	10	6	16
Visual	7	24	31	11	19	30
Tactile	5	11	16	9	9	18
Kinesthetic	2	5	7	3	4	7
No preference	5	14	19	11	8	19
Total	30	59	89	44	46	90

*P<.03
DF = 4
Chi Square 11.101

Table 3

Time Preference

	Boys	Girls	Total	Grade 1	Grade 2	Total
Morning	9	15	24	19	6	25
Afternoon	13	31	44	13	30	43
Evening	2	4	6	2	3	5
No preference	6	9	15	10	7	17
Total	30	59	89	44	46	90

Table 4

Sound Preference

	Boys	Girls	N	Grade 1	Grade 2	N
Sound	1	0	1	1	2	3
No sound	24	54	78	39	36	75
No preference	5	5	10	4	8	12
Total	30	59	89	44	46	90

TOTAL RESPONSES OF BOYS/GIRLS IN GRADE 1 AND GRADE 2

Table 5

Intake Preference

	Boys	Girls	Total	Grade 1	Grade 2	Total
Intake	18	31	49	23	25	48
No Intake	9	20	29	14	16	30
No Preference	4	8	12	7	6	13
Total	31	59	90	44	47	91

Table 6

Temperature Preference

	Boys	Girls	Total	Grade 1	Grade 2	Total
Warm	11	18	29	9	19	28
Cool	15	28	43	21	25	46
No Preference	5	12	17	14	2	16
Total	31	58	89	44	46	90

TOTAL RESPONSES OF BOYS/GIRLS IN GRADE 1 AND GRADE 2

Table 7

Light Preference

	Boys	Girls	Total	Grade 1	Grade 2	Total
Pright Light	8	22	30	12	17	29
Low Light	12	21	33	17	17	34
No Preference	8	13	21	10	12	22
Total	28	56	84	39	46	85

Table 8

Classrom Design Preference

	Boys	Girls	Total	Grade 1	Grade 2	Total
Structure	14	30	44	24	24	88
No Structure	9	13	22	10	14	24
No Preference	6	10	16	10	8	18
Total	29	53	82	44	46	90

TOTAL RESPONSES C. BOYS/GIRLS IN GRADE 1 AND GRADE 2

Table 9

Responsibility Stimuli

	Boys	Girls	Total	Grade 1	Grade 2	Total
Responsible	22	45	67	34	34	68
Not Responsible	3	3	6	2	4	6
No Preference	6	10	16	8	8	16
Total	31	58	89	44	46	90

Table 10

Persistence Stimuli

	Boys	Girls	Total	Grade 1	Grade 2	Total
Persistant	18	40	58	27	31	58
Not Persistant	5	5	10	4	7	11
No Preference	5	7	12	3	9	12
Total	28	52	80	34	47	81

TOTAL RESPONSES OF BOYS/GIRLS IN GRADE 1

Table 11

Motivation Stimuli

	Boys	Girls	Total	Grade 1	Grade 2	Total
Self	1	0	1	0	1	1
Teacher	2	1	3	2	1	3
Adult	27	55	82	41	42	83
Unmotivated	0	2	2	1	1	2
Total	30	58	88	44	45	89